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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,645	08/10/2001	Philip T. Hughes	042390.P24431	5435
45209	7590	10/18/2006	EXAMINER	
INTEL/BLAKELY 12400 WILSHIRE BOULEVARD, SEVENTH FLOOR LOS ANGELES, CA 90025-1030			MURPHY, RHONDA L	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/925,645

Applicant(s)

HUGHES ET AL.

Examiner

Rhonda Murphy

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/25/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This communication is responsive to the amendment filed on 8/25/06.
Accordingly, claims 1-36 have been previously canceled and claims 37-72 are currently pending in this application. Finality of the last office action has been withdrawn.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 37, 43, 51, 57, 67 and 70 are rejected under 35 U.S.C. 102(e) as being anticipated by Kraiem et al. (US 6,370,369).

Regarding claims 37 and 51, Kraiem teaches a node for use in a communications system comprising a plurality of nodes (Fig. 1, mobile 1 and 15) wherein each node is capable of communicating with plural other nodes via point-to-point wireless transmission links between the nodes (wireless links via antennas 10 to 14 and 20 to 28; col. 2, lines 66-67; col. 3, lines 1-5), the node comprising: a plurality of highly directional antennas (antennas 11 to 14); a single radio subsystem (elements 2 to 9, located within mobile 1) for providing radio output signals for transmission via the antennas and for receiving signals received via the antennas to provide output signals from the radio subsystem (col. 3, lines 1-22); and, a switch (switching unit 9) for switching the output of the radio subsystem to a selected one of the antennas for transmission of a radio signal output by the radio subsystem by said selected antenna (col. 3, lines 1-22) and for switching an input of the radio subsystem to a selected one of the antennas such that a signal received by said selected antenna is passed as an input to the radio subsystem (col. 3, lines 1-22); whereby the direction of transmission from said node to another node in the communications system and the direction of reception to said node from another node in the communications system is determined by operating the switch to switch to the appropriate antenna of said node (col. 3, lines 1-22, 43-54).

Regarding claims 43 and 57, Kraiem teaches said node is stationary (col. 3, lines 3-5; fixed terminal).

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Regarding claim 67, Kraiem teaches each node as substantially identical (col. 3, lines 23-25).

Regarding claim 70, Kraiem teaches a data storage server (Fig. 1; memory 8) connected to or provided at a node (see Fig. 1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 41, 44, 49, 50, 55, 58, 65, 66, 71 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraiem et al. (US 6,370,369).

Regarding claims 41 and 55, Kraiem teaches said node having a directional link with at least one other node such that said node can transmit a signal to another node (Fig. 1, directional antennas 11 to 14).

Kraiem fails to explicitly disclose said node having a direct line-of-sight link with at least one other node.

However, Examiner takes official notice that it is known in the art that a directional antenna can provide a direct line-of-sight link with another node. Therefore, it would have been obvious to one skilled in the art to realize Kraiem's directional antenna can provide a direct line-of-sight link with another node, so as to prevent obstruction of the signal during transmission or reception.

Regarding claims 44 and 58, Kraiem teaches said node arranged to be in a transmission mode and a reception mode (col. 3, lines 1-5).

Kraiem fails to explicitly disclose an alternating time period for transmission mode and reception mode.

However, Examiner takes official notice that it is known in the art for a transmitter/receiver to alternate for a period of time, when transmitting or receiving.

Therefore, it would have been obvious to one skilled in the art to realize the transmitter/receiver will alternate for a time period for transmission mode and reception mode, so as to prevent interference between signal transmission and reception.

Regarding claims 49 and 65, Kraiem teaches the radio subsystem arranged to transmit signals, however fails to explicitly disclose a specified frequency at which the signals are transmitted.

Examiner takes official notice that it is known in the art for radio systems to transmit signals at frequencies greater than about 1 GHz.

Therefore, it would have been obvious to one skilled in the art to provide signal transmission at frequencies greater than about 1 GHz, so as to provide a high-frequency signal.

Regarding claims 50 and 66, Kraiem teaches nodes transmitting via wireless links, but fails to explicitly disclose the link between two nodes arranged to simultaneously use two or more frequency channels.

However, Examiner takes official notice that it is known in the art for wireless links to simultaneously use two or more frequency channels.

Therefore, it would have been obvious to one skilled in the art to Kraiem's system to include simultaneous frequency channels, so as to enable simultaneous transmission/reception at a node using multiple frequency channels without channel interference.

Regarding claim 71, Kraiem teaches nodes transmitting via wireless links, but fails to explicitly disclose at least one link of a node arranged to use a first transmission frequency and at least one other link of said node is arranged to use a second transmission frequency.

However, Examiner takes official notice that it is known in the art for wireless links to use separate frequency channels.

Therefore, it would have been obvious to one skilled in the art to modify Kraiem's system by including a link with a first transmission frequency and another link with a

second transmission frequency, in order to provide communication between the nodes using separate frequencies.

Regarding claim 72, Kraiem teaches some of the nodes allocated to subscribers (mobile terminal 1 and 15), but fails to explicitly disclose some of the nodes not allocated to subscribers, at least some of said non-allocated nodes being solely for carrying information traffic between subscriber nodes.

However, Examiner takes official notice that it is known in the art for some nodes to be unallocated to subscribers, which are used for carrying information traffic between subscriber nodes.

In view of this, it would have been obvious to one skilled in the art to modify Kraiem's system by including unallocated subscribers, so as to provide intermediate nodes for forwarding information.

8. Claims 38 – 40, 52 – 54, 68 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraiem et al., in view of Foster, Jr. et al. (US 6,778,516).

Regarding claims 38 and 52, Kraiem teaches said node has plural links to other nodes (Fig. 1, via antennas 10 to 14 and 20 to 28). Although transmitting in time slots are well known in the art, Kraiem fails to explicitly disclose each of said plural links between respective pairs of nodes being associated with a time slot.

However, Foster teaches each of said plural links between respective pairs of nodes being associated with a time slot (col. 13, lines 47-52).

In view of this, it would have been obvious to one skilled in the art to modify Kraiem's system by including links associated with a time slots, in order allow a node to transmit at a specified time period.

Regarding claims 39 and 53, Kraiem teaches links between each node, but fails to explicitly disclose each link for each node associated with a distinct time slot.

However, Foster teaches each link for each node associated with a distinct time slot (col. 13, lines 47-52).

In view of this, it would have been obvious to one skilled in the art to modify Kraiem's system by including links associated with a distinct time slots, in order allow a node to transmit at a specified time period.

Regarding claims 40 and 54, Kraiem teaches links between each node, but fails to explicitly disclose the allocation of time slots to the links varied such that a link may selectively be associated with more than one time slot.

However, Foster teaches the allocation of time slots to the links varied such that a link may selectively be associated with more than one time slot (col. 13, lines 47-60).

In view of this, it would have been obvious to one skilled in the art to modify Kraiem's system by including varied time slots, in order allow a node to transmit at a various time intervals.

Regarding claim 68, Kraiem teaches the system connected to a network (Fig. 1), but fails to explicitly disclose the system connected to a conventional trunk network for providing access to other networks.

However, Foster teaches a conventional trunk network for providing access to other networks (see Fig. 6).

In view of this, it would have been obvious to one skilled in the art to modify Kraiem's system by including a trunk network for providing access to other networks, in order to communicate with other networks.

Regarding claim 69, Kraiem teaches a further node (Fig. 1, mobile 15) connected by a data connection (wireless link via antenna) to one of the nodes (mobile 1) of the system, but fails to explicitly disclose the further node arranged to transfer a signal to or receive a signal from the trunk network or both.

However, Foster teaches the further node arranged to transfer a signal to or receive a signal from the trunk network or both (Fig. 6, col. 5, lines 13-30).

In view of this, it would have been obvious to one skilled in the art to modify Kraiem's system by transferring or receiving a signal from the trunk network, so as to provide communication between the nodes in the networks.

9. Claims 42, 45 – 48, 56, 59, 60 – 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraiem et al. in view of Dasgupta (US 5,926,101).

Regarding claims 42 and 56, Kraiem teaches said node comprising a transmitter arrangement (Fig. 1, elements 2 to 9 within mobile 1) constructed and arranged to transmit a signal including said information to another node (col. 3, lines 34-42).

Kraiem fails to explicitly disclose including said information to another node if and only if a signal received at said node includes information for another node.

However, Dasgupta teaches node including said information to another node if and only if a signal received at said node includes information for another node (col. 4, lines 60-67; col. 5, lines 1-2).

In view of this, it would have been obvious to one skilled in the art to modify Kraiem's system by including such information for another node, so as to forward the information to the intended node.

Regarding claims 45, 59 and 60, Kraiem teaches each node arranged to transmit information to any other node, but fails to explicitly disclose not transmitting information to any other node when that information is addressed to said at least one node.

However, Dasgupta teaches each node arranged not to transmit to any other node information in a signal received by said one node when that information is addressed to said at least one node (col. 5, lines 49-53).

In view of this, it would have been obvious to one skilled in the art to modify Kraiem's system by not transmitting information to any other nodes, so as to prevent other nodes from receiving unintended information.

Regarding claims 46 and 61, Kraiem teaches said node constructed and arranged to receive a signal, but fails to explicitly disclose an addresser that adds to information in a received signal.

However, Dasgupta teaches said node having an addresser constructed and arranged to add to information in a received signal the address of a node to which a signal including said information is to be routed when said information is for another node (col. 5, lines 64-67; col. 6, lines 1-8).

In view of this, it would have been obvious to one skilled in the art to modify Kraiem's system by including an addresser so as to forward the signal to its appropriate destination.

Regarding claims 47 and 62, Kraiem teaches a node constructed and arranged to receive a signal, but fails to explicitly disclose an addresser including a route determiner constructed and arranged to determine the route of information through the system and to add an appropriate address to the information accordingly.

However, Dasgupta teaches an addresser including a route determiner constructed and arranged to determine the route of information through the system and to add an appropriate address to the information accordingly (col. 4, lines 46-59; col. 5, lines 64-67; col. 6, lines 1-8).

In view of this, it would have been obvious to one skilled in the art to modify Kraiem's system by including an addresser with a router determiner, in order to decide the optimal path for a signal to propagate and reach its destination.

Regarding claims 48 and 64, Kraiem teaches said node having a processor (Fig. 1, controller 6), but fails to explicitly disclose the processor constructed and arranged to determine if a received signal includes information for said node and to process information in a signal addressed to said node.

However, Dasgupta teaches said node having a processor (Fig. 1; MPU 32) constructed and arranged to determine if a received signal includes information for said node and to process information in a signal addressed to said node (col.6, lines 54-66).

In view of this, it would have been obvious to one skilled in the art to modify Kraiem's system by including such processor, in order to properly process the information and forward to its appropriate destination.

Regarding claim 63, Kraiem teaches a central system controller (Fig. 1, controller 1) constructed and arranged to receive a signal, but fails to explicitly disclose a central system controller constructed and arranged to determine the route of information through the system.

However, Dasgupta teaches a central system controller (Fig. 2, NCN) constructed and arranged to determine the route of information through the system (col. 4, lines 46-59; col. 5, lines 64-67; col. 6, lines 1-8).

In view of this, it would have been obvious to one skilled in the art to modify Kraiem's system by including a central system controller, in order to decide the optimal path for a signal to propagate and reach its destination.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda Murphy whose telephone number is (571) 272-3185. The examiner can normally be reached on Monday - Friday 8:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rhonda Murphy
Examiner
Art Unit 2616

RM



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